

REMARKS / ARGUMENTS

I. General Remarks and Disposition of the Claims.

Claims 1-44 are pending in this application. Claims 1-16 and 18-31 stand rejected. Claims 17 and 32 have been withdrawn from consideration. Claims 2, 3, 5 and 33-44 have been cancelled. Claims 1, 4, and 14 have been amended and claims 45-54 have been added. Applicants respectfully request reconsideration in light of the remarks contained herein. Applicants reserve their right to take up prosecution on the claims as originally filed in this or an appropriate continuing application.

II. Remarks Regarding Species Election.

Claims 17 and 32 fall outside the elected species but are dependent on generic claims (1 and 18 respectively) and should be allowed if the corresponding generic claims are allowed. Applicants again request that these claims be held in abeyance pending resolution of the patentability of the corresponding generic claims. Applicants reserve the right to pursue additional species should a generic claim be allowed, or in a divisional or other continuing application.

III. Remarks Regarding Objections to the Drawings.

The Examiner has objected to the drawing because “suitable descriptive and concise legends should be provided to label the depicted elements of the invention such as the water concentration sensor 48 in Figs. 1 and 3 and the densometer in Fig. 3 for understanding of the drawings (37 CFR 1.84(o)).” (Office Action at 2.) The Examiner requested that the boxes in Figures 1 and 3 include descriptive text similar to the drawings in U.S. Patent No. 5,114,239 issued to Allen. The Applicants appreciate the Examiner’s clarification on this point. The Drawings have been amended accordingly.

IV. Remarks Regarding Rejections Under 35 U.S.C. § 102.

The Examiner has rejected claims 1-3 under 35 U.S.C. 102(b) as being anticipated by DE 1921681 (hereinafter “*DE '681*”). (Office Action at 4.) With respect to this rejection the Examiner stated:

DE 1921681 discloses a system for preparing a mixture of water and at least one non-aqueous material, comprising: a mixing zone 6; means 4,8 for injecting water into the mixing zone; means for injecting the at least one non-aqueous material into the mixing zone (the inclined feed conveyor means seen on the right side of the Figure); and a sensor 1 disposed within the mixing zone that measures the concentration of water in the mixture; wherein the mixing zone comprises a mixing tub 6; wherein the sensor 1 is disposed within the mixing tub as seen in the Figure.

(Office Action at 4.) Applicants respectfully traverse.

Claims 2 and 3 have been canceled. Claim 1 has been amended to recite the limitations of claims 2 and 3, namely that the mixing zone comprises a mixing tub and a sensor disposed therein.

*DE '681 is directed to a method for measuring and controlling the water content in fresh concrete. In *DE '681* the water content of a sample is measured on the basis of the moderation of fast neutrons on hydrogen nuclei. *DE*, lines 22-24. Specifically, *DE '681* measures the water concentration in a mixture by emitting high energy neutron radiations through the mixture. These neutrons lose energy only through impact with other atomic nuclei and the energy loss is greater the more nearly the mass of the other particle involved equals the mass of the neutron. Because the mass of a hydrogen atom is approximately equal to the mass of a neutron, the energy loss is greatest when a neutron collides with a hydrogen atom. Therefore, the concentration of hydrogen atoms can be measured by counting the moderated neutrons in the detector. *DE*, Page 3, lines 24-31 and Page 4, lines 1-6. Specifically, *DE '681* provides that*

[t]he problem addressed is solved either by measuring from the *outside*, without interrupting the mixing process, *through the walls of the mixing trough*, the hydrogen atom concentration in the mix after neutron bombardment from a radiation source of appropriate strength by counting the moderate neutrons in the detector and using the measured values found to trigger electrical processes for controlling water dosing and recording the water content of the mix currently in production, or by determining the water content of the mix *immediately after completion upon leaving the mixing machine*, on the same principle, the measured values obtained here being used to control the water dosing of the mix following, while the recording relates to the water content of the measured finished mix.

DE, Page 4, lines 8-23 (emphasis added). Therefore, in *DE* '681 the detector which measures the moderated neutrons and hence the water concentration is located outside the mixing tub and detects the water concentration through the walls of the mixing trough or after the mixture has left the mixing trough.

Hence, *DE* '681 fails to disclose a mixing zone where a sensor is disposed within the mixing tub. The Examiner identifies item number 1 in *DE* '681 as the Sensor. However, the item labeled 1 is in fact the radiation source and not the sensor or detector. *DE*, Page 6, line 18. The detector is the item labeled 2 in the Figure. *DE*, Page 6, line 18. A close look at the figure in *DE* '681 shows that the figure is consistent with the *DE* '681 disclosure discussed above and although the Radiation Source 1 is placed inside the mixing machine, the Detector 2, which is the sensor in this case, is placed outside the mixing machine.

As a result, *DE* '681 does not teach or suggest each and every limitation of independent claim 1 as required to anticipate the claim under 35 U.S.C. § 102(b). MPEP § 2131. The Applicants respectfully request a withdrawal of this rejection.

V. Remarks Regarding Rejections Under 35 U.S.C. § 103.

The Examiner has rejected claims 1, 2, 4-16, and 18-31 under 35 U.S.C. § 103 as being obvious over U.S. Patent No. 5,114,239 to Allen (hereinafter “*Allen*”) in view of U.S. Patent Number 6,169,407 to Wang et al. (hereinafter “*Wang*”) or *DE* ‘681 (Office Action at 5). As recognized by the Examiner, the combination of the cited references does not recite every element of claim 3. Claims 2 and 5 have been canceled and claim 1 has been amended to recite the limitation of claim 3. Claims 6-15 depend directly or indirectly from amended independent claim 1. Therefore, the Examiner’s rejection of claims 1, 2, 5 and 6-15 is now moot. As for claims 4, 16 and 18-31, the Applicants respectfully traverse the Examiner’s rejection because the Examiner has not established a *prima facie* case of obviousness, in that the cited references do not disclose, expressly or inherently, each and every claim limitation and there is no suggestion or motivation to combine the references with a reasonable expectation of success. *See* MPEP § 2142.

Claim 16, and the newly added claims 44-54, depend directly or indirectly from the amended independent claim 4. Claim 4 has been amended to recite a mixing zone comprising a recirculation circuit and a sensor disposed within the recirculation circuit that measures the concentration of the water in the mixture. Similarly, claims 19-31 depend from claim 18 which discloses the measurement of the water concentration in the flow discharge line. As discussed above, and pointed out by the Examiner, *Allen* fails to disclose a system that includes a water concentration sensor disposed within the recirculation circuit or flow discharge line. (Office Action at 23.) The Examiner relies on *DE* ‘681 and *Wang* for teaching this limitation.

However, there is no suggestion or motivation to combine *Allen* with *Wang* or *DE* ‘681 with a reasonable expectation of success. *See* MPEP § 2142. “Obviousness can only be

established by . . . modifying the teaching of the prior art where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” MPEP § 2143.01. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be both found in the prior art, not in applicant’s disclosure. See MPEP § 2143.

Wang is directed to a water metering apparatus for measuring water concentration in a water-ink emulsion used in printing press. *Wang*, Abstract. Specifically, *Wang* discloses an apparatus where the concentration of water in the water-ink emulsion is continuously measured on real time basis. In contrast, *Allen* is directed to apparatus and methods for producing a cement slurry at a well site and to a method of performing a cement job on a well so that a cement slurry is made and placed in a well. *Allen*, Col. 1, lines 7-10. In fact, *Wang* refers to the use of the disclosed invention to retain the concentration of an *emulsion* throughout the specification and thereby, teaches away from using the invention in a mixture of water and at least one non-aqueous material as disclosed in amended independent claim 4 and independent claim 18.

Similarly, there is no motivation to combine the teachings of *Allen* with that of DE ‘681. DE ‘681 is directed to a method for measuring and controlling the water content in fresh concrete which is used in construction. The DE ‘681 invention deals with measuring and controlling the actual water content of the concrete mix. (DE, at 3.) The concrete mixture is then carried to the site to be used. In contrast, *Allen* deals with a method and apparatus for producing a cement slurry at a well site and to a method of performing a cement job on a well so

that a cement slurry is made and placed in the well. *Allen*, Col. 1, lines 5-10. Consequently, there was no motivation to combine the teachings of *DE '681* and *Allen*.

Therefore, Applicants respectfully submit that the Examiner has not pointed to any suggestion or motivation to combine the teachings of *Wang* or *DE '681* with *Allen* that is present in the cited references themselves. The Examiner has provided no evidence or finding of the specific understanding or principle within the knowledge of a person of ordinary skill in the art at the time of the invention that would have supplied the motivation to combine the cited references. *See MPEP § 2143.01.*

Therefore, independent claims 4 and 18 are not obviated by *Allen* in view of *DE '681* or *Wang*. The remaining rejected claims depend either directly or indirectly on independent claims 1, 4 and 18. All these dependent claims, which include all the limitations of their corresponding independent claim, are allowable for at least the reasons cited above with respect to independent claims 1, 4 and 18. Accordingly, Applicants respectfully request withdrawal of this rejection with respect to claims 1, 4, 6-16, and 18-31.

VI. No Waiver.

All of Applicants' arguments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the anticipation and obviousness rejections.

SUMMARY

In light of the above remarks and arguments, Applicants respectfully submit that the application is now in condition for allowance and earnestly solicit early notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the attorney of record by telephone, facsimile or electronic mail, as indicated below.

Applicants believe that the fees for the newly added claims amount to \$500 and request that the fee be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0399. Should the Commissioner deem that any additional fees are due, including any fees for extensions of time, Applicants respectfully request that the Commissioner accept this as a Petition Therefore, and direct that any additional fees be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0399.

Respectfully submitted,

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